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**Spin Noise Spectroscopy and Some Design Constraints on Spintronics Devices**<sup>1</sup> AMINA BELKADI, A.F. ISAKOVIC, Khalifa University - KUSTAR — Spin noise spectra are obtained on GaAs samples with the standard setup. The spin spectral characteristics are studied in comparison with the spin transport efficiency for diodes fabricated on the same samples. It is shown that spectral characteristics of spin noise, such as FWHM and Q-factor are related to the spin transfer efficiency. Temperature and magnetic field dependence of the spin noise spectra are studied in the context of spin relaxation mechanisms. We also performed spin noise correlations analysis with respect to the volume effects motivated by the need to understand the design constraints on spintronics devices due to spin noise effects.

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